**Claims**

1. An electrochemical cell for the electrolysis of an aqueous solution of hydrogen chloride, comprising at least an anode half-cell with an anode, a cathode half-cell with a gas diffusion electrode as cathode and an ion exchange membrane arranged between the anode half-cell and the cathode half-cell, the membrane consisting of at least a perfluorosulfonic acid polymer, wherein the gas diffusion electrode and the ion exchange membrane are adjacent to each other, characterised in that the surface of the gas diffusion electrode facing the ion exchange membrane and the surface of the ion exchange membrane facing the gas diffusion electrode are smooth.

2. An electrochemical cell for the electrolysis of an aqueous solution of hydrogen chloride, comprising at least an anode half-cell with an anode, a cathode half-cell with a gas diffusion electrode as cathode and an ion exchange membrane arranged between the anode half-cell and the cathode half-cell, the membrane consisting of at least a perfluorosulfonic acid polymer, wherein the gas diffusion electrode and the ion exchange membrane are adjacent to each other, characterised in that the gas diffusion electrode and the ion exchange membrane, under a pressure of 250 g/cm$^2$ and at a temperature of 60°C, have a contact area of at least 50 %, with respect to the geometric area.

3. An electrochemical cell according to Claim 2, characterised in that the contact area is at least 70 %.

4. An electrochemical cell according to one of Claims 1-3, characterised in that the ion exchange membrane has one layer of a perfluorosulfonic acid polymer and a support is embedded in the layer of perfluorosulfonic acid polymer.

5. An electrochemical cell according to one of Claims 1-3, characterised in that the ion exchange membrane has at least two layers of a perfluorosulfonic acid polymer and a support structure is embedded between two layers or in one of the two layers of perfluorosulfonic acid polymer.

6. An electrochemical cell according to Claim 5, characterised in that the ion exchange membrane has at least two layers, wherein the layers have different equivalent weights.

7. An electrochemical cell according to one of Claims 1-6, characterised in that the layers of perfluorosulfonic acid polymer have an equivalent weight of 600 to 2500, preferably 900 to 2000.

8. An electrochemical cell according to Claim 6 or 7, characterised in that the layer which is facing the gas diffusion electrode has a higher equivalent weight than the other layers.

9. An electrochemical cell according to one of Claims 1-8, characterised in that the catalyst layer for the gas diffusion electrode is applied to the ion exchange membrane.

10. An electrochemical cell according to one of Claims 1-9, characterised in that the ion exchange membrane has a support structure of a gauze, woven fabric, braiding, knitted fabric, non-woven or foam of a plastically or elastically deformable material, preferably metal, plastics, carbon and/or glass fibres.